STATE OF MARYLAND

DHMH

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April 16, 2010

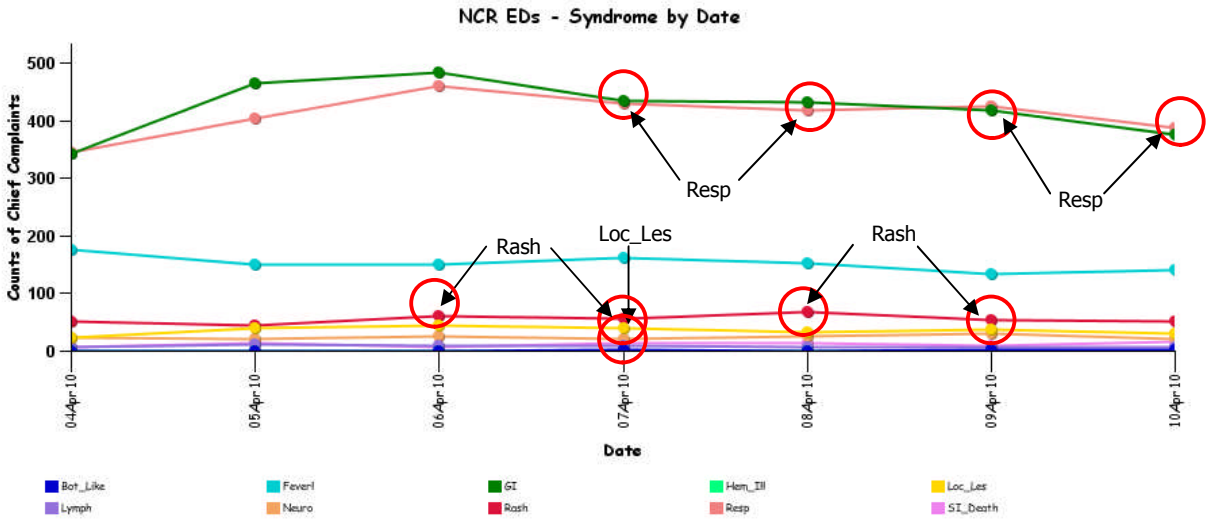
Public Health & Emergency Preparedness Bulletin: # 2010:14
Reporting for the week ending 04/10/10 (MMWR Week #14)

CURRENT HOMELAND SECURITY THREAT LEVELS

National: **Yellow (ELEVATED) *The threat level in the airline sector is Orange (HIGH)**
Maryland: **Yellow (ELEVATED)**

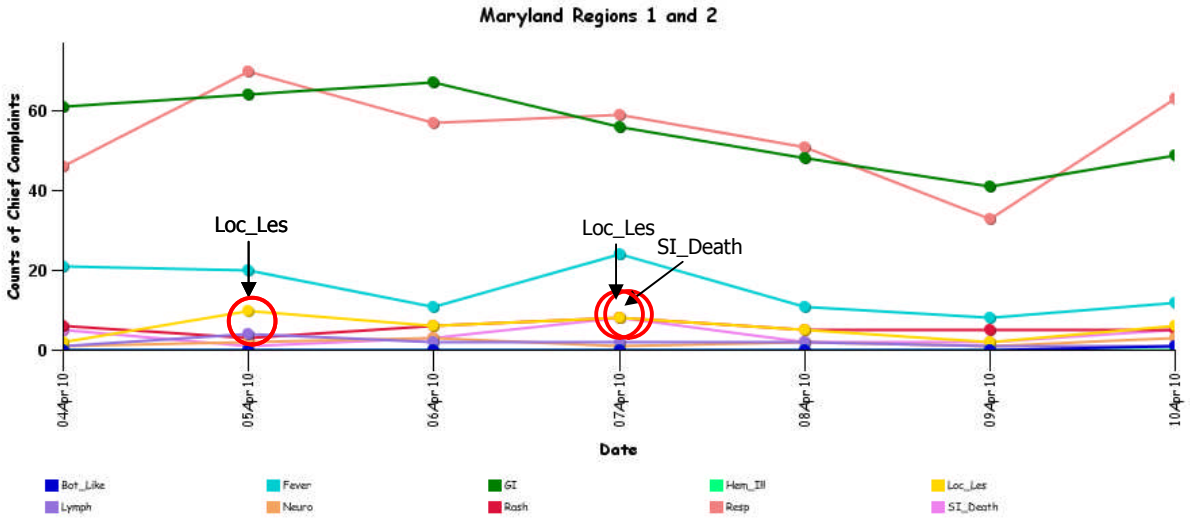
SYNDROMIC SURVEILLANCE REPORTS
ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics):
Graphical representation is provided for all syndromes, excluding the "Other" category, all age groups, and red alerts are circled.
Note: ESSENCE – ANCR Spring 2006 (v 1.3) now uses syndrome categories consistent with CDC definitions.

Overall, no suspicious patterns of illness were identified. Track backs to the health care facilities yielded no suspicious patterns of illness.

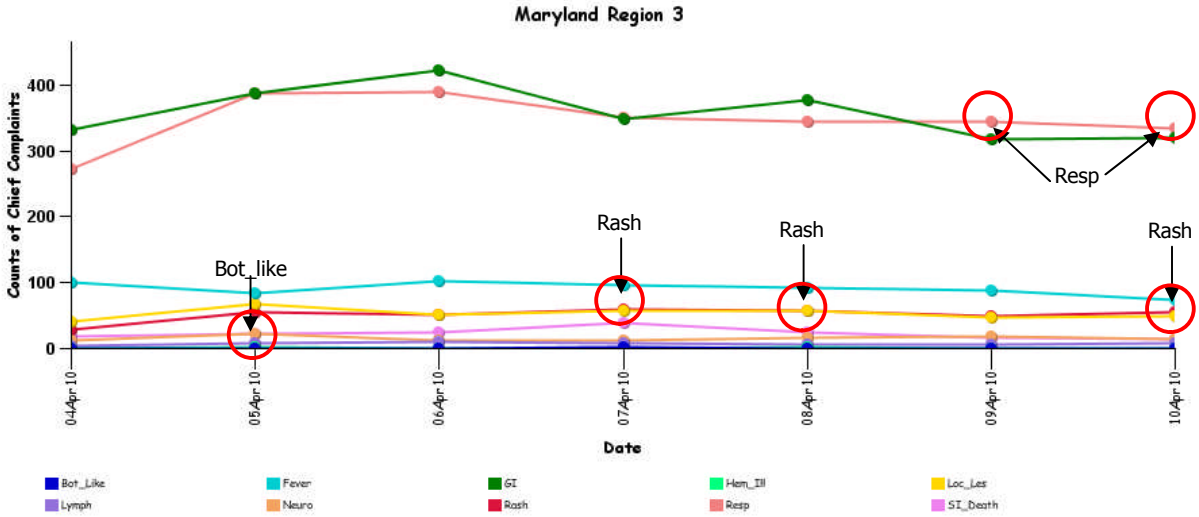


* Includes EDs in all jurisdictions in the NCR (MD, VA, and DC) reporting to ESSENCE

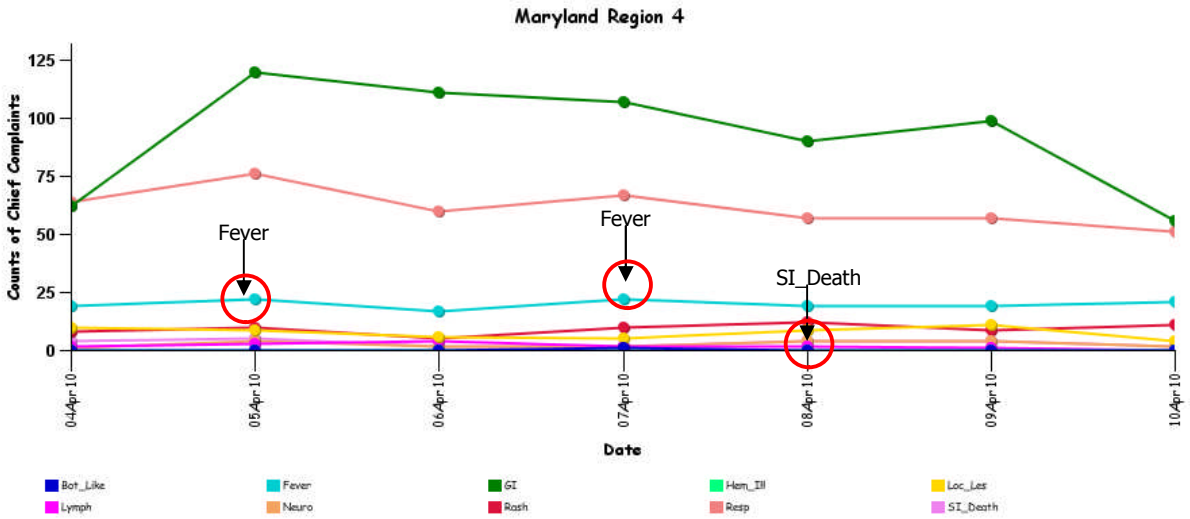
MARYLAND ESSENCE:



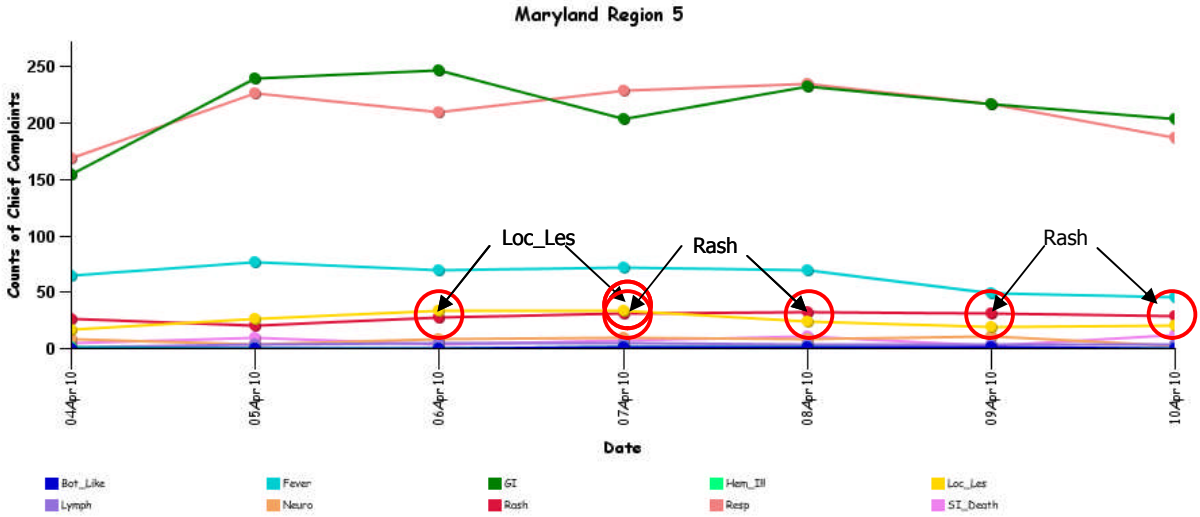
* Region 1 and 2 includes EDs in Allegany, Frederick, Garrett, and Washington counties reporting to ESSENCE



* Region 3 includes EDs in Anne Arundel, Baltimore city, Baltimore, Carroll, Harford, and Howard counties reporting to ESSENCE

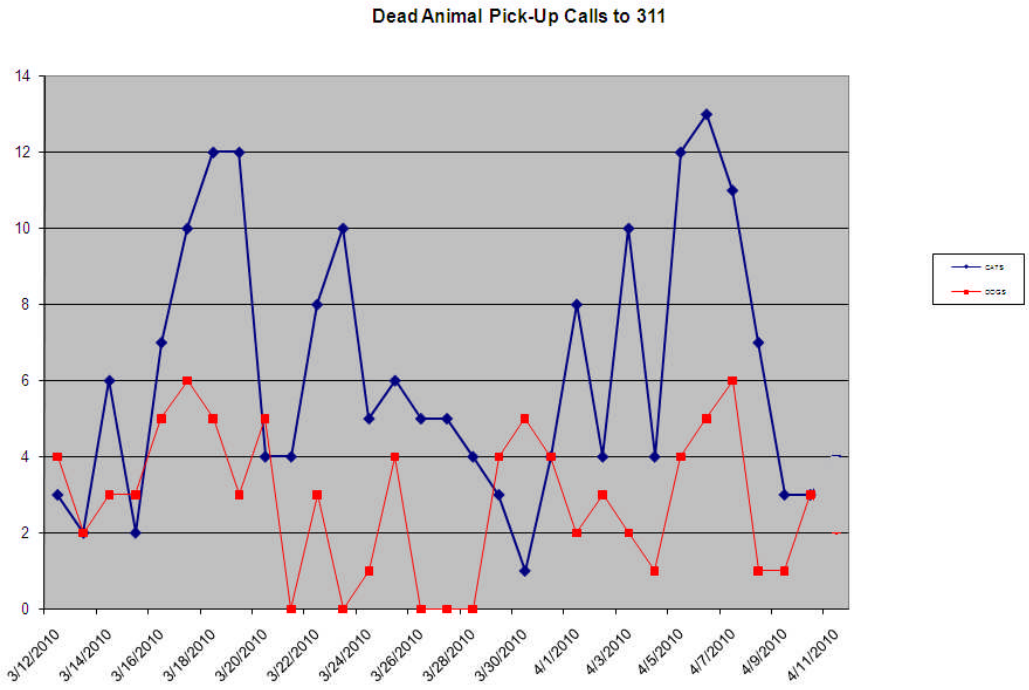


* Region 4 includes EDs in Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester counties reporting to ESSENCE



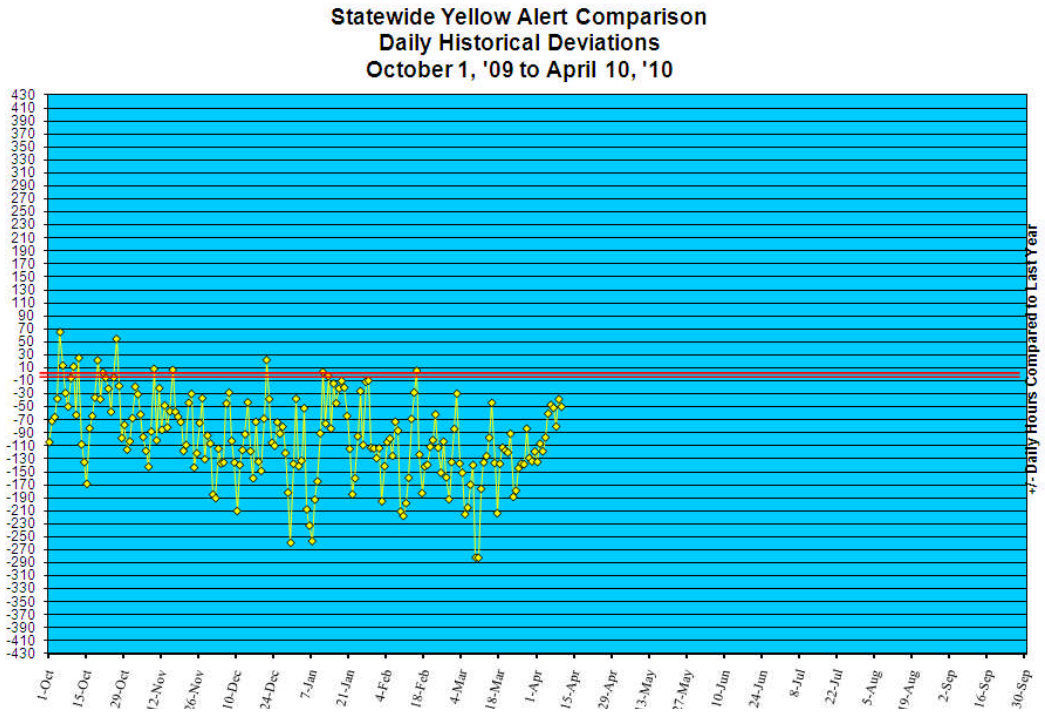
* Region 5 includes EDs in Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties reporting to ESSENCE

BALTIMORE CITY SYNDROMIC SURVEILLANCE PROJECT: No suspicious patterns in the medic calls, ED Syndromic Surveillance and the animal carcass surveillance. Graphical representation is provided for animal carcass surveillance 311 data.



REVIEW OF EMERGENCY DEPARTMENT UTILIZATION

YELLOW ALERT TIMES (ED DIVERSION): The reporting period begins 10/01/09.



REVIEW OF MORTALITY REPORTS

Office of the Chief Medical Examiner: OCME reports no suspicious deaths related to an emerging public health threat for the week.

MARYLAND TOXIDROMIC SURVEILLANCE

Poison Control Surveillance Monthly Update: Investigations of the outliers and alerts observed by the Maryland Poison Center and National Capital Poison Center in March 2010 did not identify any cases of possible public health threats.

REVIEW OF MARYLAND DISEASE SURVEILLANCE FINDINGS

COMMUNICABLE DISEASE SURVEILLANCE CASE REPORTS (confirmed, probable and suspect):

Meningitis:	**Aseptic**	**Meningococcal**
New cases (April 04, April 10, 2010):	03	0
Prior week (March 28-April 03, 2010):	13	0
Week#14, 2009 (April 05- April 11, 2009):	08	0

4 outbreaks were reported to DHMH during MMWR Week 14 (April 4-10, 2010)

1 Gastroenteritis outbreak
1 outbreak of GASTROENTERITIS in an Assisted Living Facility

1 Respiratory illness outbreak
1 outbreak of PNEUMONIA in a Nursing Home

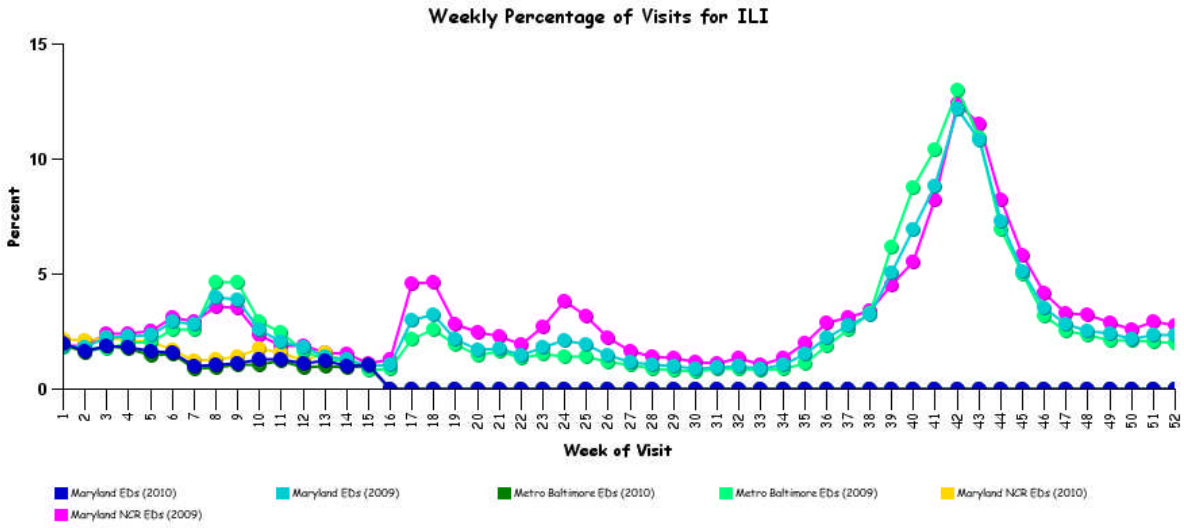
2 Rash illness outbreaks
1 outbreak of SCABIES in a Hotel
1 outbreak of CHICKENPOX in a School

MARYLAND INFLUENZA STATUS: Influenza activity in Maryland for Week 14 is SPORADIC.

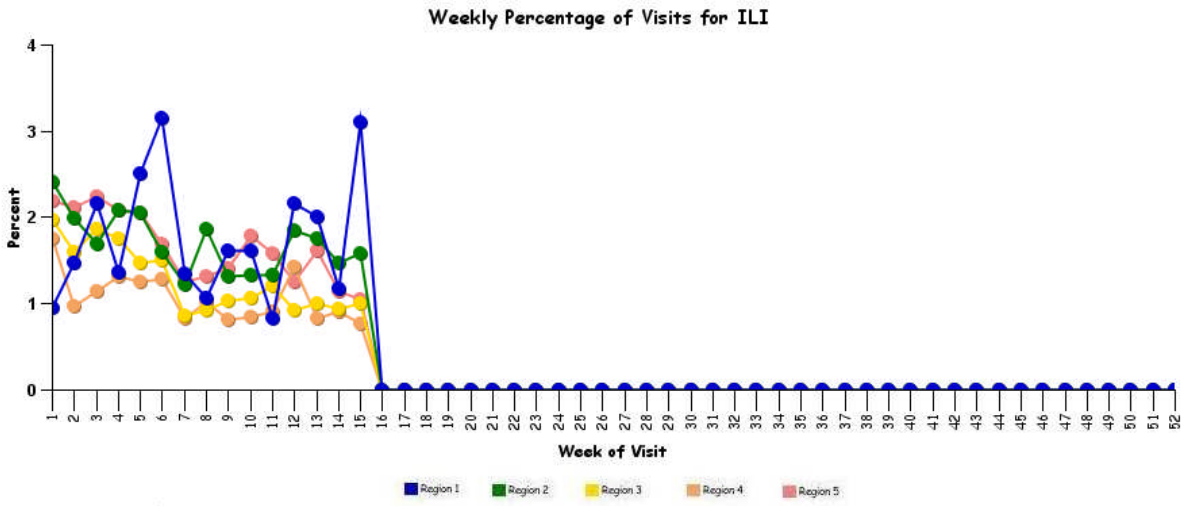
SYNDROMIC SURVEILLANCE FOR INFLUENZA-LIKE ILLNESS

Graphs show the percentage of total weekly Emergency Department patient chief complaints that have one or more ICD9 codes representing provider diagnoses of influenza-like illness. These graphs do not represent confirmed influenza.

Graphs show proportion of total weekly cases seen in a particular syndrome/subsyndrome over the total number of cases seen. Weeks run Sunday through Saturday and the last week shown may be artificially high or low depending on how much data is available for the
week.



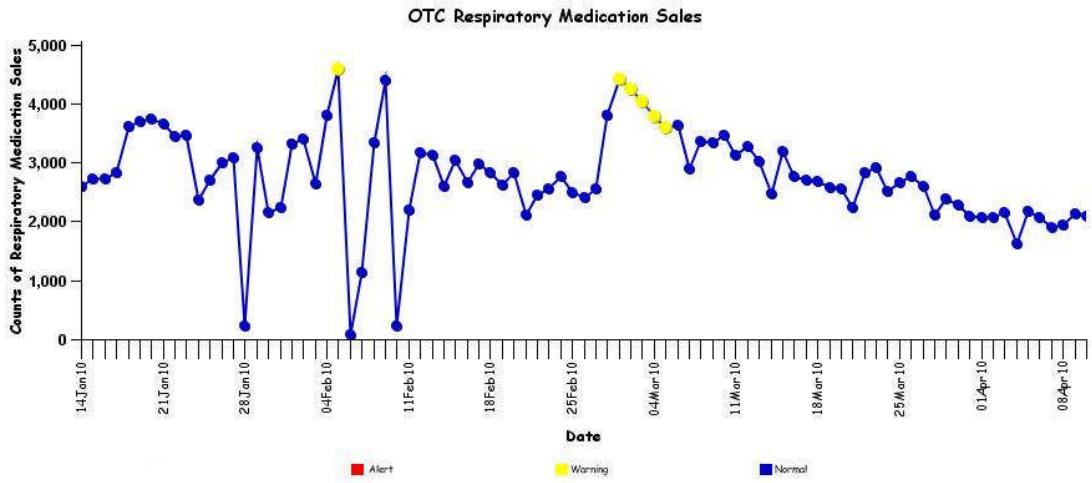
* Includes 2009 and 2010 Maryland ED visits for ILI in Metro Baltimore (Region 3), Maryland NCR (Region 5), and Maryland Total



*Includes 2010 Maryland ED visits for ILI in Region 1, 2, 3, 4, and 5

OVER-THE-COUNTER (OTC) SALES FOR RESPIRATORY MEDICATIONS:

Graph shows the daily number of over-the-counter respiratory medication sales in Maryland at a large pharmacy chain.



PANDEMIC INFLUENZA UPDATE:

WHO Pandemic Influenza Phase: Phase 6: Characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way. Definition of Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

US Pandemic Influenza Stage: Stage 0: New domestic animal outbreak in at-risk country

**More information regarding WHO Pandemic Influenza Phase and US Pandemic Influenza Stage can be found at: http://preparedness.dhmh.maryland.gov/Docs/PandemicInfluenza/PandemicInfluenzaResponseAnnex(Version7.2).pdf

AVIAN INFLUENZA-RELATED REPORTS:

WHO update: As of April 09, 2010, the WHO-confirmed global total of human cases of H5N1 avian influenza virus infection stands at 493, of which 292 have been fatal. Thus, the case fatality rate for human H5N1 is about 59%.

AVIAN INFLUENZA (EGYPT): 05 April 2010, The Health Ministry confirmed on Sun 4 Apr 2010 a new bird flu [avian influenza (H5N1)] case in Egypt bringing the total number to 109 since the appearance [of the disease] in Egypt in 2006 till now. The Ministry identified the case as an 18-year-old woman from Al-Fayyoum Governorate. The Ministry reported that she suffers from high temperature and difficulty in breathing and she has been treated in Al-Fayyoum Fever Hospital since Wed 31 Mar 2010.

AVIAN INFLUENZA (VEIT NAM): 05 April 2010, The Director of the Bac Kan Provincial Health Department, Nong Quoc Chi, confirmed an [avian influenza] A/H5N1-infected case on Mon 5 Apr 2010. The 22-year-old male patient from Na Tao hamlet, Nhu Co commune, Cho Moi district, is currently in critical condition. He is being treated at the Central Hospital for Tropical Diseases. The patient became sick on Tue 30 Mar 2010 with symptoms of high fever and cough. He was admitted to Bac Kan provincial hospital, and then sent to the Central Hospital for Tropical Diseases on Sat 3 Apr 2010, where he tested positive for the lethal strain of [avian influenza] A/H5N1 virus. At present, 4 other people in Nhu Co commune show similar symptoms of high fever and cough. They are under quarantine and being treated at Bac Kan provincial hospital.

H1N1 INFLUENZA (Swine Flu):

INFLUENZA PANDEMIC (H1N1), D222G MUTATION (HONG KONG, NORWAY): 09 April 2010, The preferential binding of influenza virus to sialic acid-alpha2,3- galactose (alpha2,3 receptor) or sialic acid-alpha2,6-galactose (alpha2,6 receptors) may determine its tropism as alpha2,3 and alpha2,6 receptors are dominant on lower and upper respiratory cells respectively. The recent glycan microarray analysis suggested that the haemagglutinin (HA) D222G substitution could cause a shift from alpha2,6 receptors to the mixed Alpha2,3/alpha2,6 receptors specificity which might increase binding to alpha2,3 receptors and contribute to severity of disease. This substitution in the HA gene has been reported in samples of viruses obtained from cases with mild to severe illness from around 20 countries, areas and territories. A recent study from Norway has evaluated the clinical relevance of this substitution with severe and mild cases. In an attempt to understand the relevance of HA D222G substitution among pandemic influenza A (H1N1) causing infections in Hong Kong, HA gene sequences from respiratory specimens and virus isolates of severe and non-severe cases were examined. Cases were individuals who had laboratory confirmed pandemic H1N1 influenza virus by either viral culture or reverse transcription PCR (RT-PCR) of respiratory specimens. The severe cases were individuals classified by the attending physician as being in a serious or critical condition. From 1 May 2009 to 31 Jan 2010, 458 respiratory samples were examined. Of 219 severe cases, nine (4.1 percent) showed D222G substitution while none of the 239 non-severe cases showed D222G substitution. Four of the nine cases died. The association of D222G with severe disease was statistically significant (p=0.002, Fisher's exact test, doubled one-sided). Other substitutions, of D222N (severe cases, n=3; non-severe cases, n=1) and D222E (only in non-severe cases, n=4) were also found. The 1st severe case appeared on 6 July 2009 and D222G substitution was detected in July, September, November and December of the same year (These data are tabulated in the original publication, to which interest readers are referred). No distinct phylogenetic clusterings of the severe cases with D222G substitution have been observed (data not shown). To put this in perspective, from July 2009 to January 2010, the accumulated severe cases were 244 while the number of isolates in our laboratory was 25 625. Priority of analysis has been given to severe cases over non-severe cases, with 90 percent and 1 percent of cases analysed respectively. Influenza is an RNA virus which evolves rapidly, frequently changing surface structures. A recent study at the United States (US) Centers for Disease Control and Prevention (CDC) reported 14 cases with 222G substitution found only in virus isolates but not in the original clinical specimens. We observed similar finding with one non-severe case showing D222G substitution in a virus isolate but not in the original clinical specimen, however, for the other 9 severe cases, we detected D222G substitution in both the virus isolate and original specimen. Similar to the Norwegian study, we also found mixed 222G and 222D in some severe cases. Although experiments with ferrets did not support a causal link of D222G substitution with virulence, further study is warranted to elucidate the intriguing relationship between D222G substitution and severe disease.

Resources:

http://www.cdc.gov/h1n1flu/

http://www.dhmh.maryland.gov/swineflu/

NATIONAL DISEASE REPORTS

BOTULISM, EQUINE, BOVINE (WISCONSIN): 04 April 2010, Botulism is recognized by many as an illness that comes from eating contaminated food. For horses, botulism can be deadly. The silent killer has left a Rusk County family reeling. Last month [March 2010] the field in front of Bob and Bonnie Rosollowski's house was full of galloping horses. Now, just 3 remain. "The 1st one we lost was my old mare; she was 33; we had her for 31 years," said Bonnie tearfully. In a matter of weeks, Bob and Bonnie lost 5 horses. They were up around the clock, fighting to save the animals they loved so much. "Sometimes almost all night long," added Bob, "trying to figure out what was going on, what we could do for them. Nobody around here had any experience with it." After area farmers began reporting similar problems with cattle, a veterinarian was able to identify the illness as botulism. The toxins in botulism are found in soil and in decaying plant or animal matter. Bonnie suspects the snow melt and warmer weather may have created the perfect environment for the spores to grow onto the hay that's fed to the horses. "The toxin is always there," said Bonnie. "It just takes the right set of circumstances to activate the spores." The disease works quickly, attacking the nervous system. Eventually the animal loses muscle control, and suffocates. "Even though they are paralyzed, and they cannot motivate their muscles themselves, they feel everything," continued Bonnie. "They feel all the pain." An anti-toxin exists, but is not widely available and is very expensive. The Rosollowski's were able to get the medicine in time to save their remaining 3 horses, but the emotion of losing 5 is still fresh. Hay from the farm is now being tested to find out whether that is where the horses contracted botulism. For more information about the illness, or vaccine, contact your local veterinarian. (Botulism is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

INTERNATIONAL DISEASE REPORTS

CHIKUNGUNYA, REUNION (SAINT PAUL): 10 April 2010, As part of epidemiological surveillance establishment [activities] in Reunion, new cases of chikungunya been highlighted in Saint Paul, in the Plateau-Caillou area, Saint-Gilles-les-Bains and La Plaine in St. Paul, according to the Regional Health Agency. The epidemiological assessment stands at 19 confirmed cases and 4 probable cases Chikungunya and dengue [viruses] are transmitted by the same mosquito, _Aedes albopictus_. To prevent the spread of chikungunya and dengue, health authorities have taken the following measures: increase vector control actions in the affected areas and mobilization of private doctors and hospitals for early reporting of suspected cases. The prevention measures: eliminate stagnant water in the environment (empty saucers, check the flow of the gutters, comply with the days of trash[collection], empty small containers ...) and protect themselves against mosquito bites (repellents, [wear] covering clothing ...). (Emerging Infectious Diseases are listed in Category C on the CDC list of Critical Biological Agents) *Non-suspect case

ANTHRAX, BOVINE (INDONESIA): 07 April 2010, The Department of Ag, Sea and Fisheries (PKP) Maros Regency announces a level one alert for anthrax, which has infected a local's cow. This level one alert from the PKP dept. follows the sudden death of a cow in Tinggito township, Tenriangkae village, Mandai sub-district, Maros on Mon 5 Apr 2010 at 22.00 Central Indonesian Time. The death of [this] cow brings the total of cows suddenly dying to 3. The 1st was found last week and tested positive for anthrax after laboratory tests. "Now we (PKP dept.) are on level one alert. We must be careful not to have any more dead cows," said the Head of the PKP in Maros, Sri Alam, on Tue 6 Apr 2010. [The owner] had already lost 2 cows suddenly, which later tested positive for anthrax. One of them had not been vaccinated. Sri Alam stated that the cow that died last Monday was not yet confirmed with anthrax or not. "This cow, we are not yet certain whether it died of anthrax or not," She said. In the meantime, the field officers of the Section for Prevention of Transmissible Disease in Maros, Isdarjid said that with the finding of the 2nd case in the same location, field officers would be particularly vigilant in their examinations. "We are undertaking disinfectant spraying twice a day in the [owner's] cow sheds," he reported. Several of the pens were being isolated and no other animals permitted to enter this area. The PKP dept. immediately buried the cow carcass to prevent spread of the anthrax bacteria. The regulations stipulated that the carcass be buried 2 meters deep and covered in lime. Before burial, the carcass was burned and sprayed with disinfectant. On Mon 5 Apr 2010, another cow was found dead of suspected anthrax in Tinggito village. Of 20 people tested, 3 results have come through so far and all found to be negative. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

ANTHRAX, BOVINE, HUMAN (INDONESIA): 05 April 2010It has been reported that anthrax [bacteria] have infected residents of Tenrigangkae village, Mandai township, Maros regency in South Sulawesi. In Makassar, South Sulawesi, (30 Mar 2010), the local official for South Sulawesi, Devi Santy Erawati has reported that 4 people and one head of household rapidly became ill following consumption of beef confirmed to be contaminated with anthrax. According to this report, 3 of the people who were involved with the slaughter of the cow on [19 Mar 2010] subsequently died, with signs of skin peeling and hand wounds. One pregnant woman had diarrheal symptoms and the other head of household has severe itching symptoms. "The people there have been notified that the beef that was eaten was in fact positive for anthrax. This has been confirmed by tests by the Maros veterinary lab which tested offal from the cow which was consumed," said Mrs Devi Another local official reported that [the owner of the cow] was apparently surprised to have received a letter from the Maros veterinary laboratory notifying him of the positive anthrax findings on the offal samples from his cow. A fax was simultaneously sent to the Maros Department of Health and Provincial Health Department. "[The

owner] brought the offal for testing to the lab, after he slaughtered the cow, as he also experienced intense itching on his hands and became suspicious," Devi had reported this to the public when she was in the middle of a public awareness programme in the local elections. Cows in Tenrigangkae village are bought by people from surrounding villages like the case from Moncongloe in February 2010. This village had become known as a village where anthrax infection had occurred. About 2 weeks after a cow was bought here, veterinary dept officials had tested a cow and also found it positive for anthrax. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

OTHER RESOURCES AND ARTICLES OF INTEREST

More information concerning Public Health and Emergency Preparedness can be found at the Office of Preparedness and Response website: http://preparedness.dhmh.maryland.gov/

Maryland's Resident Influenza Tracking System: www.tinyurl.com/flu-enroll

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NOTE: This weekly review is a compilation of data from various surveillance systems, interpreted with a focus on a potential BT event. It is not meant to be inclusive of all epidemiology data available, nor is it meant to imply that every activity reported is a definitive BT event. International reports of outbreaks due to organisms on the CDC Critical Biological Agent list will also be reported. While not "secure", please handle this information in a professional manner. Please feel free to distribute within your organization, as you feel appropriate, to other professional staff involved in emergency preparedness and infection control.

For questions about the content of this review or if you have received this and do not wish to receive these weekly notices, please e-mail me. If you have information that is pertinent to this notification process, please send it to me to be included in the routine report.

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